

GENERAL DYNAMICS

Ordnance and Tactical Systems

Munition Services

RCAP RECEIVED

January 7, 2011

JAN 11 2011

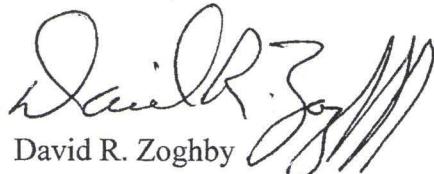
Chief Permits Section
MDNR, HWP
P.O. Box 176
Jefferson City, MO 65102

RE: EPA ID # MOD985798164

EBV Explosives Environmental Company dba General Dynamics Ordnance and Tactical Systems Munition Services is submitting the completed Release Report for the release at Building #3 on September 24, 2010.

Please contact myself if there are questions or additional information required.

Very truly yours,



David R. Zoghby
Senior Director of Marketing

cc: EPA Region 7
Richard Hock

P.O. Box 1386
Joplin, MO 64802 USA
Telephone (417) 624-0212
Fax (417) 782-6363

AO18

504835



RCRA

**Release Report
Building #3 Spill
on 9/24/2010**

**EBV Explosives Environmental Company
dba, General Dynamics-OTS Munition Services
Submitted: January 7, 2011**

Release Report

Building #3 Spill on 9/24/2010

EBV Explosives Environmental Company dba General Dynamics Ordnance and Tactical Systems Munition Services (EBV EEC) had a spill involving APCS Ash from Building #3 on 9/24/2010. The spill was found at about 4 pm on September 28, 2010. MDNR was notified verbally on the morning of 9/29/2010 and by email the same day. The spill was cleaned up on 9/30/2010 and placed into three roll-off containers. The following is the Report on the clean-up of the release and sampling completed on the area after clean-up.

The following requirement is from the EBV EEC RCRA Permit

- D. The Permittee shall submit a Newly Identified Release Report to the Department and EPA according to the schedule specified in the approved Newly Identified Release Work Plan. The Newly Identified Release Report shall present and discuss the information obtained during implementation of the approved Newly Identified Release Work Plan. At a minimum, the report shall provide the following information for each newly identified release:
1. The location of the newly identified release in relation to other SWMU(s);
 2. The general dimensions of the release;
 3. The period during which the release is suspected to have occurred;
 4. The physical and chemical properties of all wastes that have been determined to comprise the release;
 5. The results of any sampling and analysis conducted;
 6. Past and present operating practices near and at the location of the release;
 7. Previous uses of the area(s) occupied near and at the location of the release;
 8. Amounts of waste handled near and at the location of the release; and
 9. Drainage areas and/or drainage patterns near and at the location of the release.

Information Required for the Release Report

1. The location of the newly identified release in relation to other SWMU(s);

The newly identified release was located on the northwest corner of the EBV EEC property to the west of Building #3 as shown on the RCRA Permit Application drawing Figure 1-5 in Appendix #1. The ash from the APCS fell on the west side of the APCS Pad during transfer from the collection container to the roll-off and was washed through the storm drain on the southwest end of the pad on the ground to the west of Building #3.

The building, pad and grading is shown on the drawing EBV – Civil – Building #3 Site Grading drawing in Appendix #2, and the area where the ash was released onto the ground is shown on the drawing “Building 3 Release Location” in Appendix #3.

2. The general dimensions of the release;

The ash from the APCS was found in the gravel at the end of the drain pipe and on the dirt in area depicted on the drawing in Appendix #3. The ash and potentially contaminated soil and gravel were removed on 9/30/2010 within 24 hours of finding the spill. The soil was placed into 3 roll-off containers and shipped to Peoria Disposal Company as detailed in the 3 hazardous waste manifests found in Appendix #4. The general dimensions of the release that was removed are 52 ft long and have a width of 23 ft on one end and 31 ft on the other end, covering an area of ~1400 sqft.

3. The period during which the release is suspected to have occurred;

The release occurred on the early morning of Sep 24, 2010 when a heavy rain has received.

4. The physical and chemical properties of all wastes that have been determined to comprise the release;

The release was comprised of ash from the Building #3 Air Pollution Control System that is collected in the bins under each piece of equipment in the form of a dry white powder. The ash consists of sodium carbonate, sodium chloride, aluminum oxide, aluminum chloride and iron oxide. The ash typically has a pH of 9 to 10 and can contain <10 mg/l lead, <5 mg/l chromium and <1 mg/l cadmium. Representative samples of the APCS Ash are in Appendix #5.

5. The results of any sampling and analysis conducted;

The samples of the soil were collected after removal of the potentially contaminated soil based on the procedures and requirements detailed in the RCRA Permit Application. The soil samples were collected on 11/22/2010 between 8:00 am and 11:00 am. The soil at the sample location was loosened in a 6” to 8” circle about 6” deep with a spade. This soil was thoroughly mixed with the spade and a representative grab sample was taken with a scoop and put into a clean sample container received from the lab where the samples were being sent. The container was sealed and marked and recorded on the Chain of Custody log. Then the equipment was wiped clean and moved to the next sample location. This process was repeated at each sample location marked on the drawing “Building 3 Release Location” in Appendix #1. The Chain of Custody log is found in Appendix # 6.

As detailed on the drawing in Appendix #1, four samples were taken from the release area on EBV property and 6 samples were taken on the release area on Expert Management Inc, property. The complete sample results are in Appendix #7.

The following table has a summary of the sampling results.

Sample #	Cadmium	Chromium	Lead	Chloride
EPA Method	3050/6010	3050/6010	3050/6010	300.0
31 & 32	ND	9.7	16.9	ND
33 & 34	ND	14.6	20.0	ND
35 & 36	ND	9.3	17.3	ND
37 & 38	ND	8.6	15.8	ND
39 & 40	ND	9.3	18.7	ND
41 & 42	ND	8.3	19.7	ND
43 & 44	ND	8.9	16.0	ND
45 & 46	ND	16.4	16.3	ND
47 & 48	ND	10.4	18.1	ND
49 & 50	ND	6.7	17.4	ND
Average mg/kg	10.2	17.6	mg/kg	

6. Past and present operating practices near and at the location of the release;

General Facility Description

The EBV EEC Facility consists of 6 process areas, 4 magazines and 3 support buildings located within a 55-acre site. The EBV EEC Facility is has 4 RCRA areas including the Incineration Plant, the Storage Feed Handling Building, part of the ICM/MLRS Building, and the Propellant Thermal Treatment Unit (Building #3).

Building #3, the Propellant Thermal Treatment Unit was built in 2009 and is designed to thermally treat Arcadene 360B Propellant from the rocket motors of the M26 Multiple Launch Rocket System (MLRS) that are designed and built for US Army.

Owner and Operator

EBV EEC is both the Owner and the Operator of this unit which is located at 4174 County Road 180, Carthage.

Building #3 Facility Description

Building #3, the Propellant Thermal Treatment Unit (PTTU) is one of two new buildings recently built for a new contract from the US Army for the demilitarization and disassembly of M26 Multiple Launch Rocket System (MLRS). Upon separation from the Warhead, the MLRS Rocket Motor is generated as a hazardous waste and transferred to the PTTU. The PTTU includes a Receiving Bay, two Safety Cells, a Transfer Bay, two

Propellant Thermal Treatment Chambers and an Air Pollution Control System (APCS) based on the RCRA Subpart X regulations. The Rocket Motor contains 216.5 pounds of a case bonded Ammonium Perchlorate based propellant. The Rocket Motor is cut into 8 to 10 segments or slices. Each segment is transferred into a Propellant Thermal Treatment Chamber, ignited by a natural gas fired torch and transferred into the Rotary Conveying System. All of the propellant is consumed in less than ½ minute. Clean scrap metal is collected in the residuals area of this process. The chamber is held at a negative pressure by induced draft fans on the APCS through which the emissions are pulled for cleaning. The APCS consists of an Expansion Chamber to buffer the temperature, a Spray Dryer to neutralize the chlorine and acid gases, and Baghouse to filter the particulates. Induced Draft Fans pull the emission from the chamber thru the APCS to the Stack.

There are no other known uses of the area where the release was located.

7. Previous uses of the area(s) occupied near and at the location of the release;

Building #3 was built in 2009 on an unused portion of the EBV site. There are no other known uses of the area where the release was located. Approximately 500 ft to the south, Building #1 was built in 2008 on an unused portion of the EBV site. Approximately 500 ft to the east Magazines #1 & 2 were built in 1994 on an unused portion of the EBV site. The former EMI Burning grounds are located 600 ft to the north of where the release was located. The land to the west of where the release was located is owned by EMI and is previously unused.

8. Amounts of waste handled near and at the location of the release; and

Building #3 is designed to treat up to 48,400 lbs of rocket motors per day. At this design rate, there is 33,300 lbs of ash from the APCS expected to be generated per day.

9. Drainage areas and/or drainage patterns near and at the location of the release.

Storm water that falls on 2/3 of the APCS pad (east and south) is designed to flow into the sump where the water is pumped into a holding tank and used in the process as cooling water. The storm water on the remaining 1/3 of the pad was designed to flow into a storm drain on the southwest side. Since the spill, this storm drain has been sealed and the storm water on this 1/3 of the pad now flows into the sump. The storm water on the north and northwest side of Building #3 flows into a storm drain at the northwest corner. The water from the storm drains and water that falls on the permeable areas naturally flows to the northwest onto the EMI property and into a natural drainage ditch. This ditch potentially flows into Grove Creek.

Appendix #1 - RCRA Permit Application Figure 1-5

D&W RE LLC WITH PURCHASE OPTION BY EBVEEC

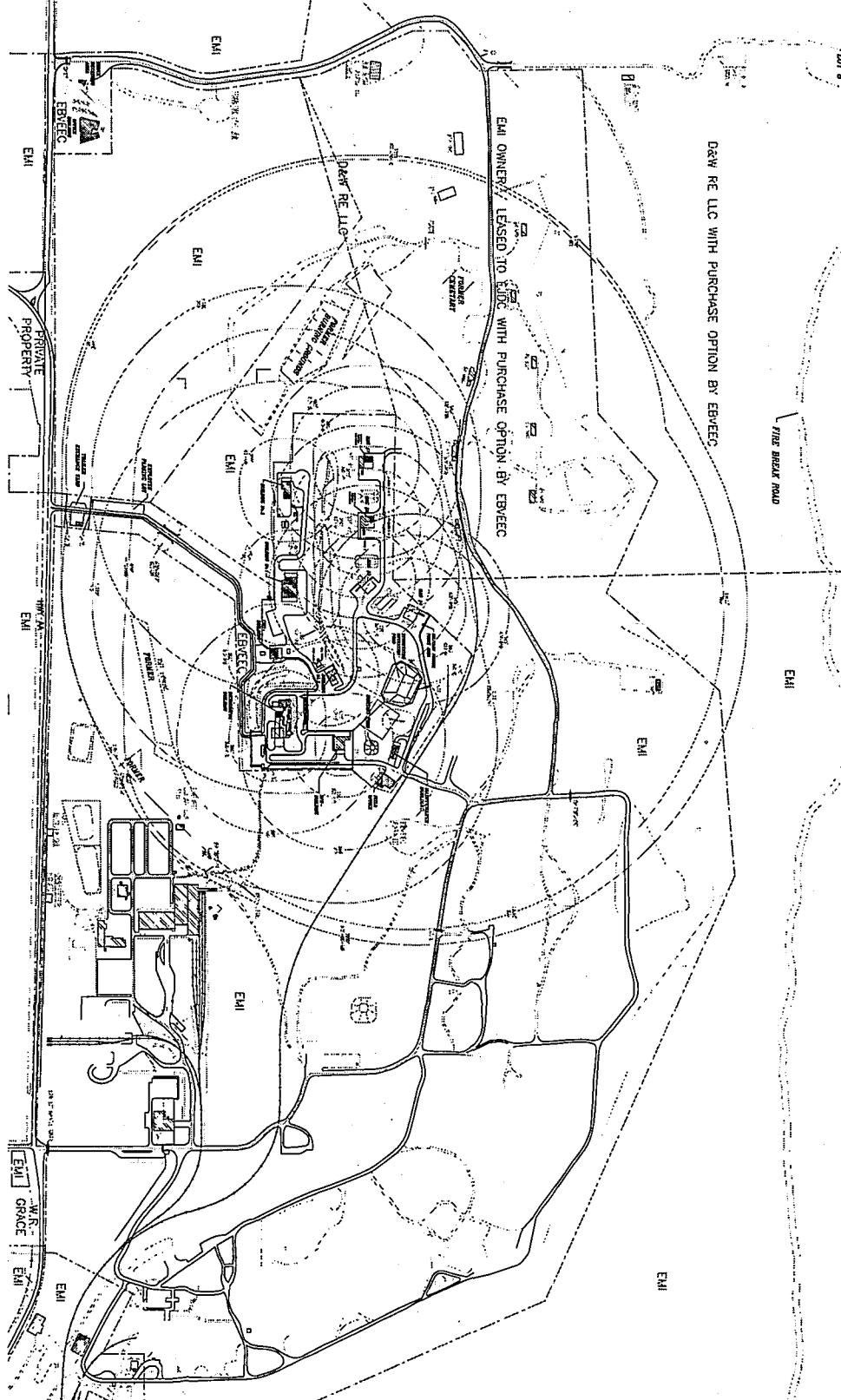
FIRE BREAK ROAD

E&I

E&I

EMI OWNER LEASED TO E&I WITH PURCHASE OPTION BY EBVEEC

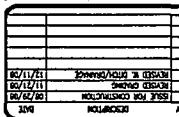
PROPERTY LINE



EBVEEC	
CONTRACTS AGREED	EMI EXPLOSION PROTECTION CO.
PHONE 1-5	
FIRE BREAK ROAD	
EMI	
EMI PROPERTY	
EMI ALTERNATE ROUTE	
EMI ACCESS ROUTE	
EMI GRAVE	
W.R.	
FIRE BREAK ROAD	
EMI EXPLOSION PROTECTION CO.	

01-101
01-101
14

Appendix #2 - EBV – Civil – Building #3 Site Grading

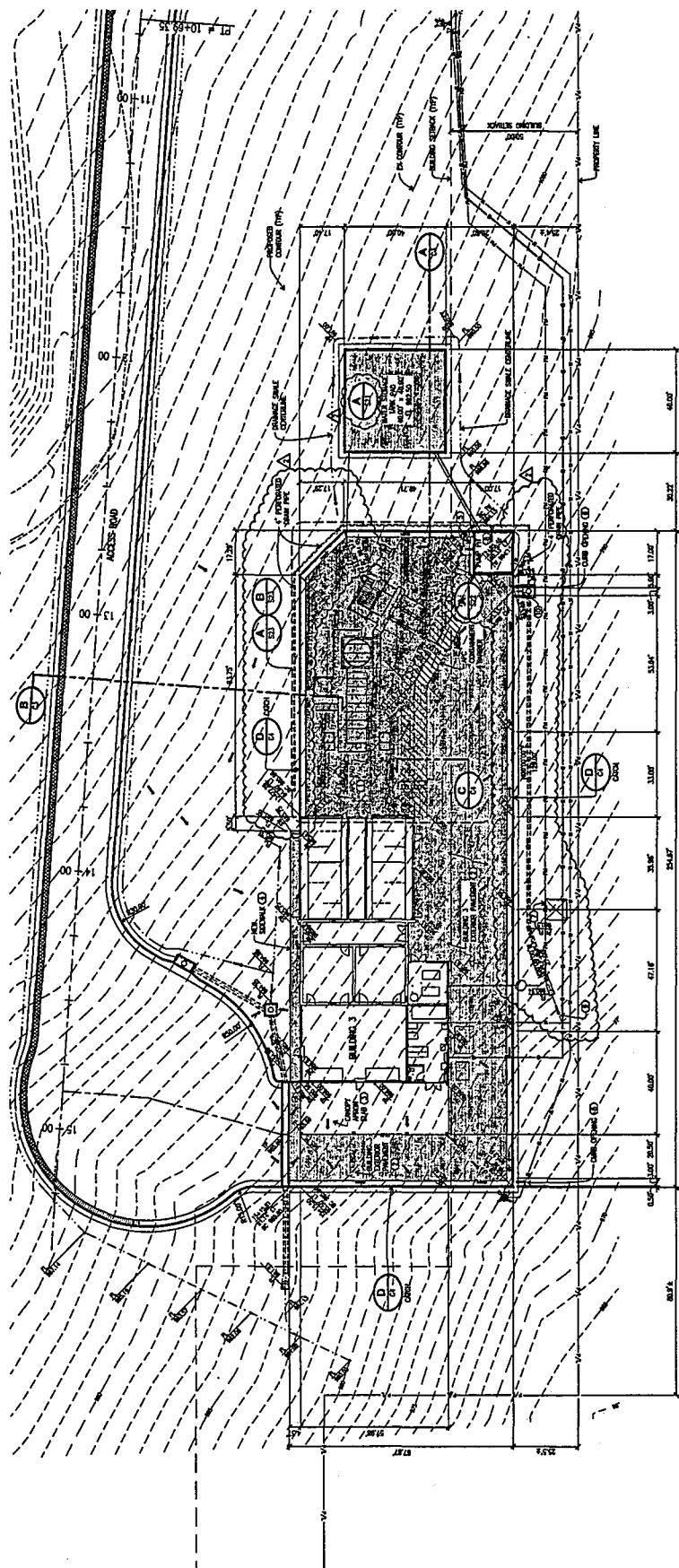


BUILDING SITE GRADING

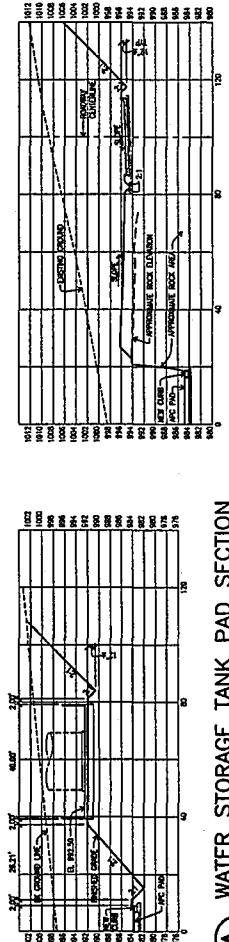
1822 N. Broadway Avenue
Springfield, MO 65803
Phone: 417-631-6500
Fax: 417-631-6533

CREATED BY	H. TRAY	DATE	11/19/00
CHANGED BY	J.F.	DATE	11/21/00
APPROVED BY	J.F.	DATE	11/21/00
REMOVED BY		DATE	
NOT		REASON FOR REMOVAL	
DRAWING RECD			
AS NOTED			
EBC PROJ. NO.			
08198			
DRAWING NO.			

C.3



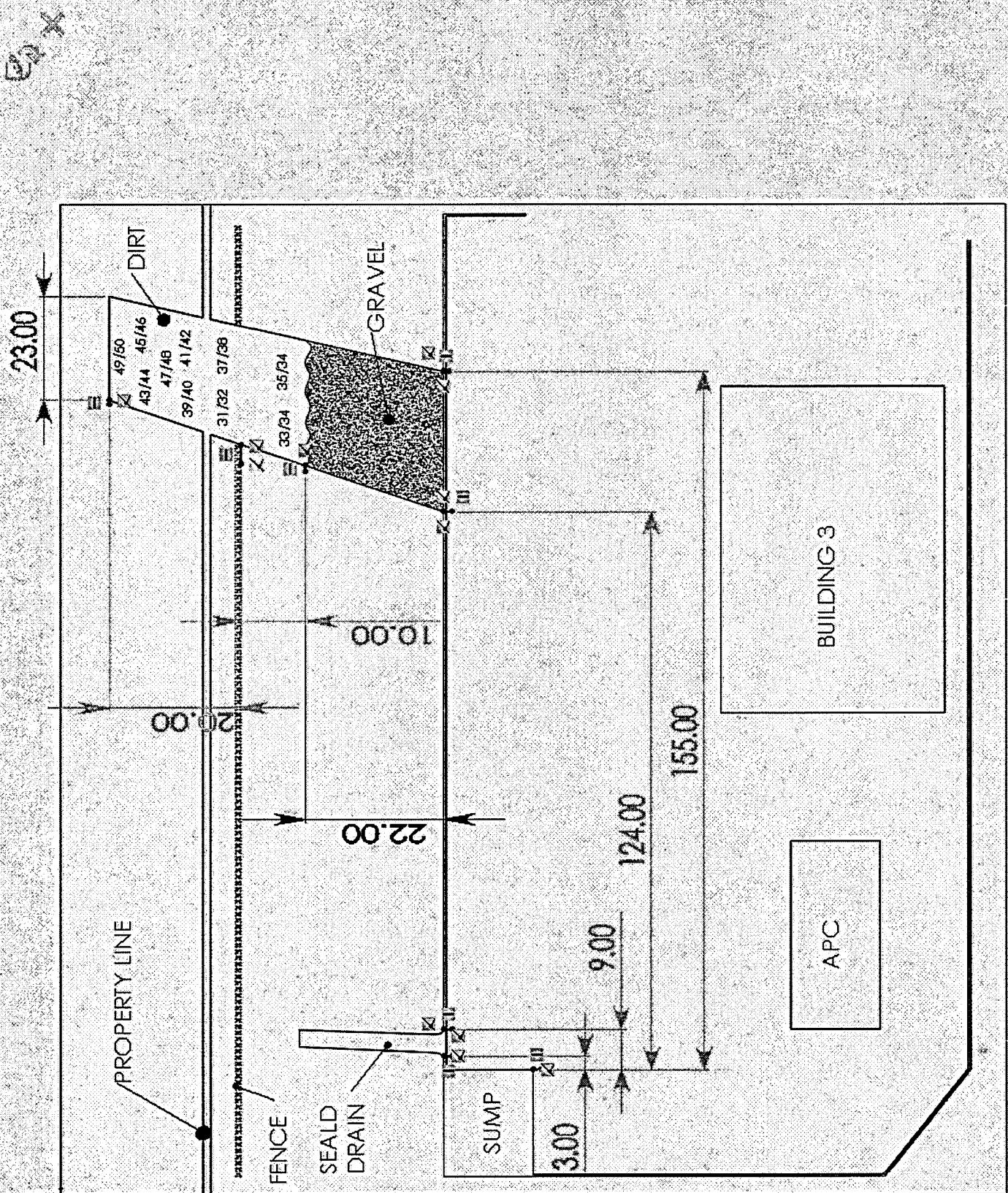
Digitized by srujanika@gmail.com



APC AND ROADWAY SECTION

WATER STORAGE TANK PAD SECTION

Appendix #3 - Building 3 Release Location



Appendix #4 – Hazardous Waste Manifests

DK3107041

SC PPW 1/20/2010

Form Approved. OMB No. 2050-0039

Please print or type. (Form designed for use on elite (12-pitch) typewriter)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number MOD985798164	2. Page 1 of 1	3. Emergency Response Phone (800)483-8718	4. Manifest Tracking Number 003077519 FLE		
5. Generator's Name and Mailing Address EBV Explosives 4174 County Road 180 Carthage, MO 64836 Generator's Phone: (417) 534-0512 ATTN: P. J. Binkley Generator's Site Address (if different than mailing address) SAME							
6. Transporter 1 Company Name Clean Harbors Environmental Services Inc.		U.S. EPA ID Number MA0039322260					
7. Transporter 2 Company Name		U.S. EPA ID Number					
8. Designated Facility Name and Site Address Clean Harbors Lone Mountain LLC 6 miles east & 1 mile north of Jet. US Highways 281 & 412 Facility Phone: OK 73864 U.S. EPA ID Number OKD065438376							
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group if any): X 1 NA3077, HAZARDOUS WASTE, SOLID, N.O.S., (D005 D006, D007, D008, D010), 9, PG III, (INCINERATOR ASH)		10. Containers	11. Total Quantity	12. Unit Wt/Vol		
	No	Type	001 CM	24280 P	D005 D008 D007 D008 D010		
2							
3							
4							
14. Special Handling Instructions and Additional Information 1. CH2487338 ERG#171 10/10/2010 25072							
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.							
Generators/Offeror's Printed/Typed Name Chris Fawcett		Signature Ch. Fawcett		Month 10	Day 10	Year 2010	
16. International Shipments <input checked="" type="checkbox"/> Import to U.S.		<input type="checkbox"/> Export from U.S.		Port of entry/exit: Date leaving U.S.			
Transporter signature (for exports only).							
17. Transporter Acknowledgment of Receipt of Materials Brian Nutt							
Transporter 1 Printed/Typed Name Brian Nutt		Signature Brian Nutt		Month 10	Day 10	Year 2010	
Transporter 2 Printed/Typed Name		Signature		Month	Day	Year	
18. Discrepancy							
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity		<input type="checkbox"/> Type		<input type="checkbox"/> Residue		<input type="checkbox"/> Partial Rejection	<input type="checkbox"/> Full Rejection
Manifest Reference Number:							
18b. Alternate Facility (or Generator)		U.S. EPA ID Number					
Facility's Phone:							
18c. Signature of Alternate Facility (or Generator)							
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal and recycling systems)							
1. H132		2		3		4	
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a							
Printed/Typed Name Levi Miller		Signature Levi Miller		Month 10	Day 10	Year 2010	

DK 3107041

SC PPW 4/20/2010

Form Approved, OMB No. 2050-0039

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number M O D 9 8 5 7 9 8 1 6 4	2. Page 1 of 1	3. Emergency Response Phone (800) 483-3718	4. Manifest Tracking Number 003077520 FLE			
5. Generator's Name and Mailing Address EDY Explosives 4174 County Road 180 Carthage, MO 64830 Generator's Phone: (417) 276-0717		Generator's Site Address (if different than mailing address) SAME						
6. Transporter 1 Company Name Clean Harbors Environmental Services Inc		U.S. EPA ID Number M A D 0 3 9 3 2 2 2 6 0						
7. Transporter 2 Company Name		U.S. EPA ID Number						
8. Designated Facility Name and Site Address Clean Harbors Long Mountain LLC 5 miles east & 1 mile north of Jct. US Highways 281 & 412 Waukomis, OK 73360 Facility's Phone: (501) 657-2800		U.S. EPA ID Number OK D 0 6 5 4 3 8 3 7 6						
GENERATOR	9a. HM		9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group if any) X NA3077. HAZARDOUS WASTE SOLID N.O.S., (D005, D006, D007, D008, D010), 9, PG III, (INCINERATOR ASH)		10. Containers	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	No	Type	001 CM	19880 P	D005 D006 D007	D008 D010		
	2							
	3							
	4							
14. Special Handling Instructions and Additional Information 1. CH240730B ERG#171 CHMT Box 25103								
15. GENERATOR/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.								
Generator/Offeror's Printed/Typed Name Chris Edwards		Signature <i>Chris Edwards</i>		Month	Day	Year	10 10 10	
TRANSPORTER INT'L	16. International Shipments <input type="checkbox"/> Import to U.S.		<input type="checkbox"/> Export from U.S.		Port of entry/exit			
	Transporter signature (for exports only): Jene Roberts				Date leaving U.S.			
17. Transporter Acknowledgment of Receipt of Materials Transporter 1 Printed/Typed Name Jene Roberts		Signature <i>Jene Roberts</i>		Month	Day	Year	10 08 10	
DESIGNATED FACILITY	Transporter 2 Printed/Typed Name Don Roberts		Signature <i>Don Roberts</i>		Month	Day	Year	10 08 10
18. Discrepancy								
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity		<input type="checkbox"/> Type		<input type="checkbox"/> Residue	<input type="checkbox"/> Partial Rejection	<input type="checkbox"/> Full Rejection		
Manifest Reference Number:								
18b. Alternate Facility (or Generator) Facility's Phone:		U.S. EPA ID Number						
18c. Signature of Alternate Facility (or Generator)		Month	Day	Year				
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)								
1. H132		2.	3.	4.				
20. Designated Facility Owner or Operator. Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a								
Printed/Typed Name Chris Edwards		Signature <i>Chris Edwards</i>		Month	Day	Year	10 10 10	

DK 3107041

SC PPW 1/20/2010

Form Approved, OMB No. 2050-0039

Please print or type. (Form designed for use on a 12-pitch typewriter.)

UNIFORM HAZARDOUS WASTE MANIFEST		1 Generator ID Number M O D 9 8 5 7 9 6 1 8 4	2 Page 1 of 1	3 Emergency Response Phone (800) 483-8718	4 Manifest Tracking Number 003077518 FLE			
5. Generator's Name and Mailing Address EBV Explosives 4174 County Road 180 Carthage, MO 64836 Generator's Phone: (417) 634-0312 ATTN: Pat Rickman								
6. Transporter 1 Company Name Clean Harbors Environmental Services Inc								
7. Transporter 2 Company Name 								
8. Designated Facility Name and Site Address Clean Harbors Lone Mountain LLC 6 miles east & 1 mile north of Jct. US Highways 281 & 412 Waukon, IA 73860 Facility's Phone: (515) 507-2800								
9a HM	9b U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group if any)	10 Containers		11 Total Quantity 23,800	12. Unit Wt/Vol P	13 Waste Codes		
		No.	Type			D005	D006	D007
X	NA3077 HAZARDOUS WASTE, SOLID, N.O.S., (D005, D006, D007, D008, D010), 9, PG III, (INCINERATOR ASH)	001	CM	D008	D010			
2								
3								
4								
14. Special Handling Instructions and Additional Information 1. CH2 457998 EPA#171								
CHHT 25A4L								
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/packaged, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.								
Generator/Offeror's Printed/Typed Name <i>Chris Fletcher</i>		Signature <i>Chris Fletcher</i>		Month	Day	Year		
16. International Shipments <input checked="" type="checkbox"/> Import to U.S.		<input type="checkbox"/> Export from U.S.		Port of entry/exit _____				
Transporter signature (for exports only):								
17. Transporter Acknowledgment of Receipt of Materials Transporter 1 Printed/Typed Name <i>Glen Wickert</i>								
Transporter 1 Printed/Typed Name <i>Glen Wickert</i>		Signature <i>Glen Wickert</i>		Month	Day	Year		
Transporter 2 Printed/Typed Name <i></i>								
18. Discrepancy 18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection								
Manifest Reference Number: _____								
18c. Alternate Facility (or Generator) Facility's Phone: _____								
18d. Signature of Alternate Facility (or Generator) Month Day Year								
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems): 1 H132 2 3 4								
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a Printed/Typed Name <i>John G. Fletcher</i> Signature <i>John G. Fletcher</i> Month Day Year								

Appendix #5 – Ash Sample Results



PDC Laboratories, Inc.
P.O. Box 9071 • Peoria, IL 61612-9071
(309) 692-9688 • (800) 752-6651 • FAX (309) 692-9689



EBV Explosives Environmental Co
PO Box 1386
Joplin, MO 64802

Date Received: 21-Jan-10
Date Reported 01-Mar-10

Attn: Mr. Robert Guy

Sample No: 10012836-1

Collect Date: 19-Jan-10 10:45

Client Id: NAS

Site: RESIDUAL ASH

Locator: BLD 3 GRAB

Parameter	Method	Result	Units	Date / Time	By
Bulk Density	ASTM E1109	522	lb/yd ³	21-Jan-10 12:30	ARG
Cyanide, Total	SM 4500-C, 9012A, 33	< 1.2	mg/kg	25-Jan-10 13:46	Igarg
Cyanide, Reactive	SM 4500 CN C/SW901	NA	mg/kg	25-Jan-10 15:30	Igarg
Flashpoint, Closed Cup	SW846 1020A/ASTM D	> 200	degrees F	25-Jan-10 12:54	WRW
Halides, Extractable Organic	SW-846 9023	< 50	mg/kg	27-Jan-10 6:30	ESH
Paint Filter	SW-846 9095	PASS	N/A	22-Jan-10 7:15	WRW
pH	SW-846 9045 C	8.46	units	22-Jan-10 13:06	WRW
Phenolics	SW-846 9066	0.28	mg/kg	26-Jan-10 15:12	Igarg
Radioactivity Screen	BICRON METER	90	CPM	21-Jan-10 12:50	ARG
Reactivity To Water	SW-846 7.3.1	NONE	N/A	22-Jan-10 13:06	WRW
Solids, Total	SM (18) 2540B	100	%	26-Jan-10 9:31	TCH
Sulfide, Reactive	SW-846 7.3.4.2/9034	< 2	mg/kg	25-Jan-10 13:00	SJW
Leachate Preparation	SW-846 1311			21-Jan-10 12:00	TT
Final pH	SW-846 1311	4.83		21-Jan-10 12:00	TT
Arsenic, TCLP	SW-846 6020 TCLP	< 0.02	mg/l	22-Jan-10 8:00	KMC
Barium, TCLP	SW-846 6020 TCLP	< 1	mg/l	22-Jan-10 8:00	KMC
Cadmium, TCLP	SW-846 6020 TCLP	1.2	mg/l	22-Jan-10 8:00	KMC
Chromium, TCLP	SW-846 6020 TCLP	0.14	mg/l	22-Jan-10 8:00	KMC
Lead, TCLP	SW-846 6020 TCLP	8.2	mg/l	22-Jan-10 8:00	KMC
Mercury	SW-846 6020	< 0.2	mg/kg	25-Jan-10 17:03	JMW
Mercury, TCLP	SW-846 6020 TCLP	< 0.001	mg/l	22-Jan-10 8:00	KMC
Selenium, TCLP	SW-846 6020 TCLP	0.059	mg/l	22-Jan-10 8:00	KMC
Silver, TCLP	SW-846 6020 TCLP	< 0.03	mg/l	22-Jan-10 8:00	KMC
Benzene	SW-846 1311/8260B	< 0.025	mg/l	23-Jan-10 18:50	MWS
Carbon Tetrachloride	SW-846 1311/8260B	< 0.025	mg/l	23-Jan-10 18:50	MWS
Chlorobenzene	SW-846 1311/8260B	< 0.025	mg/l	23-Jan-10 18:50	MWS
Chloroform	SW-846 1311/8260B	< 0.025	mg/l	23-Jan-10 18:50	MWS
1,4-Dichlorobenzene	SW-846 1311/8260B	< 0.025	mg/l	23-Jan-10 18:50	MWS
1,2-Dichloroethane	SW-846 1311/8260B	< 0.025	mg/l	23-Jan-10 18:50	MWS
1,1-Dichloroethylene	SW-846 1311/8260B	< 0.025	mg/l	23-Jan-10 18:50	MWS
2-Butanone (MEK)	SW-846 1311/8260B	< 0.05	mg/l	23-Jan-10 18:50	MWS
Tetrachloroethylene	SW-846 1311/8260B	< 0.025	mg/l	23-Jan-10 18:50	MWS
Trichloroethylene	SW-846 1311/8260B	< 0.025	mg/l	23-Jan-10 18:50	MWS
Vinyl Chloride	SW-846 1311/8260B	< 0.05	mg/l	23-Jan-10 18:50	MWS
o-Cresol	SW846 1311/8270CR3.	< 0.1	mg/l	25-Jan-10 22:15	PSB
m,p-Cresol	SW846 1311/8270CR3.	< 0.1	mg/l	25-Jan-10 22:15	PSB
2,4-Dinitrotoluene	SW846 1311/8270CR3.	< 0.1	mg/l	25-Jan-10 22:15	PSB

Revised report 3/1/10.



PDC Laboratories, Inc.
P.O. Box 9071 • Peoria, IL 61612-9071
(309) 692-9688 • (800) 732-6651 • FAX (309) 692-9689



EBV Explosives Environmental Co
PO Box 1386
Joplin, MO 64802

Date Received: 21-Jan-10
Date Reported 01-Mar-10

Attn: Mr. Robert Guy

Sample No: 10012836-1

Collect Date: 19-Jan-10 10:45

Client Id: NAS

Site: RESIDUAL ASH

Locator: BLD 3 GRAB

Parameter	Method	Result	Units	Date / Time	By
Hexachlorobenzene	SW846 1311/8270CR3.	< 0.1	mg/l	25-Jan-10 22:15	PSB
Hexachlorobutadiene	SW846 1311/8270CR3.	< 0.1	mg/l	25-Jan-10 22:15	PSB
Hexachloroethane	SW846 1311/8270CR3.	< 0.1	mg/l	25-Jan-10 22:15	PSB
Nitrobenzene	SW846 1311/8270CR3.	< 0.1	mg/l	25-Jan-10 22:15	PSB
Pentachlorophenol	SW846 1311/8270CR3.	< 0.5	mg/l	25-Jan-10 22:15	PSB
Pyridine	SW846 1311/8270CR3.	< 0.1	mg/l	25-Jan-10 22:15	PSB
2,4,5-Trichlorophenol	SW846 1311/8270CR3.	< 0.1	mg/l	25-Jan-10 22:15	PSB
2,4,6-Trichlorophenol	SW846 1311/8270CR3.	< 0.1	mg/l	25-Jan-10 22:15	PSB

Certified by: Lisa Zirkel Hart

Lisa Grant, Project Manager

PDC Laboratories participates in the following laboratory accreditation/certification and proficiency programs. Endorsement by the Federal or State Government or their agencies is not implied.

NELAC Accreditation for Drinking Water, Wastewater, Hazardous and Solid Wastes Fields of Testing through IL EPA Lab No. 100230

State of Illinois Bacteriological Analysis in Drinking Water Certified Lab Registry No. 17533

Drinking Water Certifications: Indiana (C-IL-04); Kansas (E-10338); Missouri (00870); Wisconsin (998294430)

Wastewater Certifications: Arkansas; Iowa (240); Kansas (E-10338); Wisconsin (99829443)

Hazardous/Solid Waste Certifications: Arkansas; Kansas (E-10338); Wisconsin (998294430)

UST Certification: Iowa (240)

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Revised report 3/1/10.



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EBV Explosives Environmental Co
PO Box 1386
Joplin, MO 64802
Attn: Mr. Robert Guy

Date Received: 21-Jan-10
Date Reported 01-Mar-10

Sample No: 10012836-1

Collect Date: 19-Jan-110:45

Client Id: NAS

Site: RESIDUAL ASH

Locator: BLD 3 GRAB

	Result	Units	Date / Time	By
Arsenic Spike Recovery	105	%	22-Jan-10 8:00	KMC
Barium Spike Recovery	101	%	22-Jan-10 8:00	KMC
Cadmium Spike Recovery	97	%	22-Jan-10 8:00	KMC
Chromium Spike Recovery	95.8	%	22-Jan-10 8:00	KMC
Lead Spike Recovery	89.4	%	22-Jan-10 8:00	KMC
Mercury Spike Recovery	96.5	%	22-Jan-10 8:00	KMC
Selenium Spike Recovery	108	%	22-Jan-10 8:00	KMC
Silver Spike Recovery	92.5	%	22-Jan-10 8:00	KMC
Benzene Spike Rec.	86	%	23-Jan-10 18:50	MWS
Carbon Tetrachloride Spike Rec.	80	%	23-Jan-10 18:50	MWS
Chlorobenzene Spike Rec.	95	%	23-Jan-10 18:50	MWS
Chloroform Spike Rec.	86	%	23-Jan-10 18:50	MWS
1,4-Dichlorobenzene Spike Rec.	84	%	23-Jan-10 18:50	MWS
1,2-Dichloroethane Spike Rec.	86	%	23-Jan-10 18:50	MWS
1,1-Dichloroethylene Spike Rec.	81	%	23-Jan-10 18:50	MWS
2-Butanone (MEK) Spike Rec.	69	%	23-Jan-10 18:50	MWS
Tetrachloroethylene Spike Rec.	85	%	23-Jan-10 18:50	MWS
Trichloroethylene Spike Rec.	80	%	23-Jan-10 18:50	MWS
Vinyl Chloride Spike Rec.	50	%	23-Jan-10 18:50	MWS
o-Cresol Spike Rec	47	%	25-Jan-10 22:15	PSB
m,p-Cresol Spike Rec	43	%	25-Jan-10 22:15	PSB
2,4-Dinitrotoluene Spike Rec	61	%	25-Jan-10 22:15	PSB
Hexachlorobenzene Spike Rec	65	%	25-Jan-10 22:15	PSB
Hexachlorobutadiene Spike Rec	43	%	25-Jan-10 22:15	PSB
Hexachloroethane Spike Rec	43	%	25-Jan-10 22:15	PSB
Nitrobenzene Spike Rec	54	%	25-Jan-10 22:15	PSB
Pentachlorophenol Spike Rec	45	%	25-Jan-10 22:15	PSB
Pyridine Spike Rec	37	%	25-Jan-10 22:15	PSB
2,4,5-Trichlorophenol Spike Rec	52	%	25-Jan-10 22:15	PSB
2,4,6-Trichlorophenol Spike Rec	52	%	25-Jan-10 22:15	PSB

This is a spike recovery summary. Please see final report for complete data.

Appendix #6 – Soil Sample Chain of Custody

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		Page: 1 of 1									
Company: General Dynamics - OTS - Munitions Address: 4174 County Rd. 180 Carthage, MO 64836 Email To: Robert.Guy@ebveec.com Phone: (417) 624-0212 Requested Due Date/TAT:		Report To: Robert Guy Copy To: Purchase Order No.: 16809 Project Name: Building 3 Soil Project Number:		Attention: Sheryl Snell Company Name: GD-OTS-ms Address: P.O. Box 1386 Joplin Mo 64802 Pace Quote Reference: Pace Project Manager: Sherri Guess Pace Profile #: 4539		REGULATORY AGENCY: <input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER									
Section D Required Client Information		SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE		Valid Matrix Codes MATRIX CODE (see valid codes to left)		Site Location: MO STATE:									
ITEM #	COLLECTED	SAMPLE TEMP AT COLLECTION				# OF CONTAINERS	Preservatives	Y/N	Analysis Test	Residual Chlorine (Y/N)	Pace Project No./Lab I.D.				
		COMPOSITE START	COMPOSITE END/GRAB	DATE	TIME							DATE	TIME		
1	31 & 32	SL	G						Metals AD/OTC		N	(WTFM) / 1(WTFM)GTOAR			
2	33 & 34	SL	G						Pb			GD			
3	35 & 36	SL	G						Cd			GD3			
4	37 & 38	SL	G						Cl			GD4			
5	39 & 40	SL	G						Chlorides			GD5			
6	41 & 42	SL	G									GD6			
7	43 & 44	SL	G									GD7			
8	45 & 46	SL	G									GD8			
9	47 & 48	SL	G									GD9			
10	49 & 50	SL	G									GD10			
11															
12															
ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		DATE		ACCEPTED BY / AFFILIATION		DATE		SAMPLE CONDITIONS					
SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER: Robert Guy SIGNATURE of SAMPLER: Robert Guy												Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
												DATE Signed (MM/DD/YY): 11/22/10			

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-Feb-2007

Sample Condition Upon Receipt



Client Name: General Dynamics Project # Co89829
Co89922
1/16/10 a

Courier: FedEx UPS USPS Client Commercial Pace Other
 Tracking #: 79919195 6659 Pace Shipping Label Used? Yes No

Optional
 Proj. Due Date: 1/29
 Proj. Name:

Custody Seal on Cooler/Box Present: Yes No Seals intact: Yes No

Packing Material: Bubble Wrap Bubble Bags Foam None Other

Thermometer Used: T-191 / T-194 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temperature: 18.3

Temperature should be above freezing to 6°C

Comments:

Date and Initials of person examining contents: TD 1/23/10 150

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.	
Chain of Custody filled out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.	<u>date</u> <u>time</u> <u>date</u> <u>time</u>
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3. <u>31</u>	<u>1/23/10</u> <u>900</u> <u>49</u> <u>1/23/10</u> <u>1030</u>
Sampler name & signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4. <u>32</u>	<u>815</u> <u>50</u> <u>↓</u> <u>1100</u>
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5. <u>33</u>	<u>930</u>
Short Hold Time analyses (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6. <u>34</u>	<u>900</u>
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7. <u>35</u>	<u>915</u>
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8. <u>36</u>	<u>915</u>
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9. <u>37</u>	<u>915</u>
-Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10. <u>39</u>	<u>930</u>
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11. <u>40</u>	<u>930</u>
Unpreserved 5035A soils frozen w/in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12. <u>41</u>	<u>930</u>
Filtered volume received for dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. <u>42</u>	<u>945</u>
Sample labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14. <u>43</u>	<u>950</u>
-Includes date/time/ID/analyses Matrix:	<u>Soils</u>	15. <u>44</u>	<u>950</u> <u>950</u> <u>950</u>
All containers needing preservation have been checked.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	16. <u>45</u>	<u>950</u> <u>950</u> <u>1000</u>
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	17. <u>46</u>	<u>1000</u>
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	18. <u>47</u>	<u>1000</u>
		19. <u>48</u>	<u>1000</u>
Initial when completed:	<u>1/24/10</u>	Lot # of added preservative:	
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	20. <u>49</u>	
Pace Trip Blank lot # (if purchased): <u>100</u>		21. <u>50</u>	
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	22. <u>51</u>	
Project sampled in USDA Regulated Area:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	23. List State:	

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: Shawn Date: 11-24-10

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Appendix #7 – Soil Sample Results



Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

December 08, 2010

Robert Guy
General Dynamics - OTS - Munition Services
4174 County Rd 180
Carthage, MO 64836

RE: Project: BUILDING 3 SOIL
Pace Project No.: 6089922

Dear Robert Guy:

Enclosed are the analytical results for sample(s) received by the laboratory on November 23, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in cursive script that appears to read "Sherri Guess".

Sherri Guess

sherri.guess@pacelabs.com
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BUILDING 3 SOIL
Pace Project No.: 6089922

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: **BUILDING 3 SOIL**
 Pace Project No.: **6089922**

Lab ID	Sample ID	Matrix	Date Collected	Date Received
6089922001	31 & 32	Solid	11/22/10 08:00	11/23/10 10:00
6089922002	33 & 34	Solid	11/22/10 08:30	11/23/10 10:00
6089922003	35 & 36	Solid	11/22/10 09:15	11/23/10 10:00
6089922004	37 & 38	Solid	11/22/10 09:15	11/23/10 10:00
6089922005	39 & 40	Solid	11/22/10 09:30	11/23/10 10:00
6089922006	41 & 42	Solid	11/22/10 09:30	11/23/10 10:00
6089922007	43 & 44	Solid	11/22/10 09:50	11/23/10 10:00
6089922008	45 & 46	Solid	11/22/10 09:50	11/23/10 10:00
6089922009	47 & 48	Solid	11/22/10 10:00	11/23/10 10:00
6089922010	49 & 50	Solid	11/22/10 10:30	11/23/10 10:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BUILDING 3 SOIL
 Pace Project No.: 6089922

Lab ID	Sample ID	Method	Analysts	Analytes Reported
6089922001	31 & 32	EPA 6010	SMW	3
		ASTM D2974-87	DDG	1
		EPA 300.0	JML	1
6089922002	33 & 34	EPA 6010	SMW	3
		ASTM D2974-87	DDG	1
		EPA 300.0	JML	1
6089922003	35 & 36	EPA 6010	SMW	3
		ASTM D2974-87	DDG	1
		EPA 300.0	JML	1
6089922004	37 & 38	EPA 6010	SMW	3
		ASTM D2974-87	DDG	1
		EPA 300.0	JML	1
6089922005	39 & 40	EPA 6010	SMW	3
		ASTM D2974-87	DDG	1
		EPA 300.0	JML	1
6089922006	41 & 42	EPA 6010	SMW	3
		ASTM D2974-87	DDG	1
		EPA 300.0	JML	1
6089922007	43 & 44	EPA 6010	SMW	3
		ASTM D2974-87	DDG	1
		EPA 300.0	JML	1
6089922008	45 & 46	EPA 6010	SMW	3
		ASTM D2974-87	DDG	1
		EPA 300.0	JML	1
6089922009	47 & 48	EPA 6010	SMW	3
		ASTM D2974-87	DDG	1
		EPA 300.0	JML	1
6089922010	49 & 50	EPA 6010	SMW	3
		ASTM D2974-87	DDG	1
		EPA 300.0	JML	1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BUILDING 3 SOIL

Pace Project No.: 6089922

Sample: 31 & 32 Lab ID: 6089922001 Collected: 11/22/10 08:00 Received: 11/23/10 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Cadmium	ND mg/kg		0.40	1	11/29/10 10:00	12/03/10 15:17	7440-43-9	
Chromium	9.7 mg/kg		0.40	1	11/29/10 10:00	12/03/10 15:17	7440-47-3	
Lead	16.9 mg/kg		0.40	1	11/29/10 10:00	12/03/10 15:17	7439-92-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	23.3 %		0.50	1		12/01/10 00:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Chloride	ND mg/kg		100	10		12/06/10 13:24	16887-00-6	

ANALYTICAL RESULTS

Project: BUILDING 3 SOIL

Pace Project No.: 6089922

Sample: 33 & 34 Lab ID: 6089922002 Collected: 11/22/10 08:30 Received: 11/23/10 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Cadmium	ND mg/kg		0.49	1	11/29/10 10:00	12/02/10 15:59	7440-43-9	
Chromium	14.6 mg/kg		0.49	1	11/29/10 10:00	12/02/10 15:59	7440-47-3	
Lead	20.0 mg/kg		0.49	1	11/29/10 10:00	12/02/10 15:59	7439-92-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	21.6 %		0.50	1		12/01/10 00:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Chloride	ND mg/kg		100	10		12/06/10 13:41	16887-00-6	

Date: 12/08/2010 03:08 PM

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BUILDING 3 SOIL
Pace Project No.: 6089922

Sample: 35 & 36 Lab ID: 6089922003 Collected: 11/22/10 09:15 Received: 11/23/10 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Cadmium	ND mg/kg		0.49	1	11/29/10 10:00	12/02/10 16:02	7440-43-9	
Chromium	9.3 mg/kg		0.49	1	11/29/10 10:00	12/02/10 16:02	7440-47-3	
Lead	17.3 mg/kg		0.49	1	11/29/10 10:00	12/02/10 16:02	7439-92-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	20.6 %		0.50	1		12/01/10 00:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Chloride	ND mg/kg		100	10		12/06/10 13:57	16887-00-6	

Date: 12/08/2010 03:08 PM

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BUILDING 3 SOIL

Pace Project No.: 6089922

Sample: 37 & 38 Lab ID: 6089922004 Collected: 11/22/10 09:15 Received: 11/23/10 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Cadmium	ND mg/kg		0.42	1	11/29/10 10:00	12/02/10 16:06	7440-43-9	
Chromium	8.6 mg/kg		0.42	1	11/29/10 10:00	12/02/10 16:06	7440-47-3	
Lead	15.8 mg/kg		0.42	1	11/29/10 10:00	12/02/10 16:06	7439-92-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	18.0 %		0.50	1		12/01/10 00:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Chloride	ND mg/kg		100	10		12/06/10 14:14	16887-00-6	



ANALYTICAL RESULTS

Project: BUILDING 3 SOIL
 Pace Project No.: 6089922

Sample: 39 & 40 Lab ID: 6089922005 Collected: 11/22/10 09:30 Received: 11/23/10 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Cadmium	ND mg/kg		0.43	1	11/29/10 10:00	12/02/10 16:09	7440-43-9	
Chromium	9.3 mg/kg		0.43	1	11/29/10 10:00	12/02/10 16:09	7440-47-3	
Lead	18.7 mg/kg		0.43	1	11/29/10 10:00	12/02/10 16:09	7439-92-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	23.3 %		0.50	1		12/01/10 00:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Chloride	ND mg/kg		100	10		12/06/10 14:30	16887-00-6	

ANALYTICAL RESULTS

Project: BUILDING 3 SOIL

Pace Project No.: 6089922

Sample: 41 & 42 Lab ID: 6089922006 Collected: 11/22/10 09:30 Received: 11/23/10 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Cadmium	ND mg/kg		0.47	1	11/29/10 10:00	12/02/10 16:12	7440-43-9	
Chromium	8.3 mg/kg		0.47	1	11/29/10 10:00	12/02/10 16:12	7440-47-3	
Lead	19.7 mg/kg		0.47	1	11/29/10 10:00	12/02/10 16:12	7439-92-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	22.6 %		0.50	1		12/01/10 00:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Chloride	ND mg/kg		100	10		12/06/10 14:47	16887-00-6	

ANALYTICAL RESULTS

Project: BUILDING 3 SOIL

Pace Project No.: 6089922

Sample: 43 & 44 Lab ID: 6089922007 Collected: 11/22/10 09:50 Received: 11/23/10 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Cadmium	ND mg/kg		0.49	1	11/29/10 10:00	12/02/10 16:16	7440-43-9	
Chromium	8.9 mg/kg		0.49	1	11/29/10 10:00	12/02/10 16:16	7440-47-3	
Lead	16.0 mg/kg		0.49	1	11/29/10 10:00	12/02/10 16:16	7439-92-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	25.9 %		0.50	1		12/01/10 00:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Chloride	ND mg/kg		100	10		12/06/10 15:03	16887-00-6	

ANALYTICAL RESULTS

Project: BUILDING 3 SOIL

Pace Project No.: 6089922

Sample: 45 & 46 Lab ID: 6089922008 Collected: 11/22/10 09:50 Received: 11/23/10 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Cadmium	ND mg/kg		0.47	1	11/29/10 10:00	12/02/10 16:19	7440-43-9	
Chromium	16.4 mg/kg		0.47	1	11/29/10 10:00	12/02/10 16:19	7440-47-3	
Lead	16.3 mg/kg		0.47	1	11/29/10 10:00	12/02/10 16:19	7439-92-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	21.2 %		0.50	1		12/01/10 00:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Chloride	ND mg/kg		100	10		12/06/10 15:20	16887-00-6	



ANALYTICAL RESULTS

Project: BUILDING 3 SOIL

Pace Project No.: 6089922

Sample: 47 & 48 Lab ID: 6089922009 Collected: 11/22/10 10:00 Received: 11/23/10 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Cadmium	ND mg/kg		0.42	1	11/29/10 10:00	12/02/10 17:12	7440-43-9	
Chromium	10.4 mg/kg		0.42	1	11/29/10 10:00	12/02/10 17:12	7440-47-3	
Lead	18.1 mg/kg		0.42	1	11/29/10 10:00	12/02/10 17:12	7439-92-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	22.8 %		0.50	1		12/01/10 00:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Chloride	ND mg/kg		100	10		12/06/10 15:53	16887-00-6	

ANALYTICAL RESULTS

Project: BUILDING 3 SOIL

Pace Project No.: 6089922

Sample: 49 & 50 Lab ID: 6089922010 Collected: 11/22/10 10:30 Received: 11/23/10 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Cadmium	ND mg/kg		0.45	1	11/29/10 10:00	12/02/10 17:15	7440-43-9	
Chromium	6.7 mg/kg		0.45	1	11/29/10 10:00	12/02/10 17:15	7440-47-3	
Lead	17.4 mg/kg		0.45	1	11/29/10 10:00	12/02/10 17:15	7439-92-1	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	26.7 %		0.50	1		12/01/10 00:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Chloride	ND mg/kg		100	10		12/06/10 16:42	16887-00-6	

QUALITY CONTROL DATA

Project: BUILDING 3 SOIL

Pace Project No.: 6089922

QC Batch:	MPRP/12914	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3050	Analysis Description:	6010 MET
Associated Lab Samples:	6089922001, 6089922002, 6089922003, 6089922004, 6089922005, 6089922006, 6089922007, 6089922008, 6089922009, 6089922010		

METHOD BLANK: 741161 Matrix: Solid

Associated Lab Samples: 6089922001, 6089922002, 6089922003, 6089922004, 6089922005, 6089922006, 6089922007, 6089922008,
6089922009, 6089922010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cadmium	mg/kg	ND	0.50	12/02/10 15:33	
Chromium	mg/kg	ND	0.50	12/02/10 15:33	
Lead	mg/kg	ND	0.50	12/02/10 15:33	

LABORATORY CONTROL SAMPLE: 741162

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	mg/kg	50	46.8	94	80-120	
Chromium	mg/kg	50	51.0	102	80-120	
Lead	mg/kg	50	49.7	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 741163 741164

Parameter	Units	6089922001 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
Cadmium	mg/kg	ND	53.5	59.9	42.3	48.8	78	81	75-125	14	20	
Chromium	mg/kg	9.7	53.5	59.9	58.4	68.2	85	93	75-125	16	20	
Lead	mg/kg	16.9	53.5	59.9	66.4	75.0	83	89	75-125	12	20	

QUALITY CONTROL DATA

Project: **BUILDING 3 SOIL**

Pace Project No.: **6089922**

QC Batch: **PMST/5736**

Analysis Method: **ASTM D2974-87**

QC Batch Method: **ASTM D2974-87**

Analysis Description: **Dry Weight/Percent Moisture**

Associated Lab Samples: **6089922001, 6089922002, 6089922003, 6089922004, 6089922005, 6089922006, 6089922007, 6089922008,
6089922009, 6089922010**

METHOD BLANK: **741982**

Matrix: **Solid**

Associated Lab Samples: **6089922001, 6089922002, 6089922003, 6089922004, 6089922005, 6089922006, 6089922007, 6089922008,
6089922009, 6089922010**

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	12/01/10 00:00	

SAMPLE DUPLICATE: **741983**

Parameter	Units	6089911001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	2.0	2.3	16	20	

QUALITY CONTROL DATA

Project: BUILDING 3 SOIL
Pace Project No.: 6089922

QC Batch:	WETA/14883	Analysis Method:	EPA 300.0
QC Batch Method:	EPA 300.0	Analysis Description:	300.0 IC Anions
Associated Lab Samples:	6089922001, 6089922002, 6089922003, 6089922004, 6089922005, 6089922006, 6089922007, 6089922008, 6089922009, 6089922010		

METHOD BLANK: 744822 Matrix: Solid

Associated Lab Samples: 6089922001, 6089922002, 6089922003, 6089922004, 6089922005, 6089922006, 6089922007, 6089922008,
6089922009, 6089922010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/kg	ND	10.0	12/06/10 11:12	

LABORATORY CONTROL SAMPLE: 744823

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/kg	50	48.1	96	90-110	

MATRIX SPIKE SAMPLE: 744826

Parameter	Units	6089922008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/kg	ND	635	673	95	64-120	

QUALIFIERS

Project: BUILDING 3 SOIL

Pace Project No.: 6089922

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: **BUILDING 3 SOIL**
 Pace Project No.: **6089922**

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
6089922001	31 & 32	EPA 3050	MPRP/12914	EPA 6010	ICP/11259
6089922002	33 & 34	EPA 3050	MPRP/12914	EPA 6010	ICP/11259
6089922003	35 & 36	EPA 3050	MPRP/12914	EPA 6010	ICP/11259
6089922004	37 & 38	EPA 3050	MPRP/12914	EPA 6010	ICP/11259
6089922005	39 & 40	EPA 3050	MPRP/12914	EPA 6010	ICP/11259
6089922006	41 & 42	EPA 3050	MPRP/12914	EPA 6010	ICP/11259
6089922007	43 & 44	EPA 3050	MPRP/12914	EPA 6010	ICP/11259
6089922008	45 & 46	EPA 3050	MPRP/12914	EPA 6010	ICP/11259
6089922009	47 & 48	EPA 3050	MPRP/12914	EPA 6010	ICP/11259
6089922010	49 & 50	EPA 3050	MPRP/12914	EPA 6010	ICP/11259
6089922001	31 & 32	ASTM D2974-87	PMST/5736		
6089922002	33 & 34	ASTM D2974-87	PMST/5736		
6089922003	35 & 36	ASTM D2974-87	PMST/5736		
6089922004	37 & 38	ASTM D2974-87	PMST/5736		
6089922005	39 & 40	ASTM D2974-87	PMST/5736		
6089922006	41 & 42	ASTM D2974-87	PMST/5736		
6089922007	43 & 44	ASTM D2974-87	PMST/5736		
6089922008	45 & 46	ASTM D2974-87	PMST/5736		
6089922009	47 & 48	ASTM D2974-87	PMST/5736		
6089922010	49 & 50	ASTM D2974-87	PMST/5736		
6089922001	31 & 32	EPA 300.0	WETA/14883		
6089922002	33 & 34	EPA 300.0	WETA/14883		
6089922003	35 & 36	EPA 300.0	WETA/14883		
6089922004	37 & 38	EPA 300.0	WETA/14883		
6089922005	39 & 40	EPA 300.0	WETA/14883		
6089922006	41 & 42	EPA 300.0	WETA/14883		
6089922007	43 & 44	EPA 300.0	WETA/14883		
6089922008	45 & 46	EPA 300.0	WETA/14883		
6089922009	47 & 48	EPA 300.0	WETA/14883		
6089922010	49 & 50	EPA 300.0	WETA/14883		